

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018306**Date Inspected:** 28-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 11EE to Segment 12AE (U-Rib to U-Rib for Field Splice)

This QA Inspector performed Dimension Control Inspection for measuring offset along with Caltrans QA Inspector Mr. Murugan Manikandan on the U-Rib to U-Rib from Cross Beam side towards Bike Path side at a total of 39 locations on Segment 11EE to Segment 12AE for Field Splice between Panel Points (PP) 108 to PP 109 at the following locations:

The offset was measured within 50mm from the Deck Panel on U-Rib on the South and North side. The QA Inspector measured the Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Bike Path at Bay # 8

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This QA Inspector performed Dimension Control Inspection on the Bike Path bottom panel for flatness check across the longitudinal butt weld using 600mm Straight Edge and Flatness check between Stiffeners using 1500mm Straight Edge. Flatness check was performed on following Bike Paths:

BK004A-054

BK004A-055 and

BK004A-056

The QA Inspector measured the flatness using 600mm and 1500mm long Straight Edges and observed flatness dimensions within the allowable tolerance.

The results of the inspection were informed to ZPMC QC Mr. Liu Fawen, ZPMC QA Mr. Lay Tao, ABF Engineer Mr. Man and Caltrans Lead Inspectors Mr. Mark Miller and Mr. Hiranch Patel.

BAY 11 – (Skid More Test)

This QA Inspector witnessed Bolt Testing for ASTM A490 Grade. Observed ZPMC QC Mr. Zou Jian performing bolts testing and ZPMC QA Inspector Mr. Lay Tao was present during the course of Bolt Testing.

The testing of bolts was performed to determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning and High Tension bolt capability verification test.

Bolt assembly identified as ASTM A490 (High Strength Bolt), Bolt Assembly comprises of (a Bolt, a Nut and a Washer).

Bolt testing was performed on a Unit: Skidmore-Wilhelm; Model: HT; Serial Number: 1014 (Calibration Expiration due date on April 29, 2011) and Torque Wrench identified as XO-326 and Torque Wrench with Dial gauge on it is identified as XO-2 (Calibration Expiration due date on April 14, 2011).

Tested bolt sizes were identified as M30x160 RC Set# DH4DM30018.

Tested bolt sizes were identified as M30x200 RC Set# DH4DM300032. Testing was kept on hold as bolts turn-of-nut exceeded the 180 degree turn and ZPMC QA confirmed that he needs this situation to be dealt by Engineer and Design Department.

Tested bolt sizes were identified as M30x200 RC Set# DH4DM300033. Testing was kept on hold as bolts turn-of-nut exceeded the 180 degree turn and ZPMC QA confirmed that he needs this situation to be dealt by Engineer and Design Department.

5 bolt assemblies were tested per lot.

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After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report # 18 for bolt size M30x160 was generated by ZPMC QA.

After determining High Tension bolt capability verification test Inspection Report # 256 for bolt size M30x160 was generated by ZPMC QA.

The generated reports were submitted to the Caltrans Lead Inspector Mr. Mark Miller and Caltrans Engineer Mr. Aaron Prchlik for review and disposition.

Segment 11AW, Segment 11BW, Segment 11CW, Segment 11DW and Segment 11EW (Longitudinal Diaphragm Cope Holes)

This QA Inspector performed Dimension Control Inspection for the Segment 11AW, Segment 11BW, Segment 11CW, Segment 11DW and Segment 11EW and measured the Cope hole dimensions located at the Longitudinal Diaphragms (West side) at the following locations:

Segment 11AW at Panel Point (PP) 95 at West side of work point W4 and work point W3.

Segment 11BW at Panel Point (PP) 98 at West side of work point W4 and work point W3.

Segment 11CW at Panel Point (PP) 101 at West side of work point W4 and work point W3.

Segment 11DW at Panel Point (PP) 104 at West side of work point W4 and work point W3.

Segment 11EW at Panel Point (PP) 107 at West side of work point W4 and work point W3.

The QA Inspector measured the cope holes dimension using a 150mm steel ruler.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11AW, Segment 11BW, Segment 11CW, Segment 11DW and Segment 11EW (Re-entrant Corners)

This QA Inspector performed Dimension Control Inspection for the Segment 11AW, Segment 11BW, Segment 11CW, Segment 11DW and Segment 11EW and measured the Re-entrant Corner radius. The QA Inspector measured the radius of re-entrant corner using a pre-cut 25mm and 50mm template. Re-entrant Corners radius was measured at the following locations:

The re-entrant corner at the Floor Beam vertical flange radius was verified and measured at Segment 11AW at Panel Point (PP) 95 at West side of work point W4 and work point W3.

The re-entrant corner at the Floor Beam vertical flange radius was verified and measured at Segment 11BW at Panel Point (PP) 98 at West side of work point W4 and work point W3.

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The re-entrant corner at the Floor Beam vertical flange radius was verified and measured at Segment 11CW at Panel Point (PP) 101 at West side of work point W4 and work point W3.

The re-entrant corner at the Floor Beam vertical flange radius was verified and measured at Segment 11DW at Panel Point (PP) 104 at West side of work point W4 and work point W3.

The re-entrant corner at the Floor Beam vertical flange radius was verified and measured at Segment 11EW at Panel Point (PP) 107 at West side of work point W4 and work point W3.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 11DW (Side Panel to Bottom Panel hold back weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg071A-044. The welder identification was 040611 and was observed welding in the 1G (Flat) and 4G(Overhead) positions using approved Welding Procedure Specification WPS-345-SMAW-1G(1F)-FCM-Repair-1 and WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Side Panel to Bottom Panel hold back weld at work point W3. ZPMC performed repair welding in accordance with Critical Welding Repair Report B-CWR2301.

Segment 11EW (Side Panel to Bottom Panel hold back weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg073A-014. The welder identification was 040611 and was observed welding in the 1G (Flat) and 4G(Overhead) positions using approved Welding Procedure Specification WPS-345-SMAW-1G(1F)-FCM-Repair-1 and WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Side Panel to Bottom Panel hold back weld at work point W3. ZPMC performed repair welding in accordance with Critical Welding Repair Report B-CWR2301.

Please reference the pictures attached for more comprehensive details.

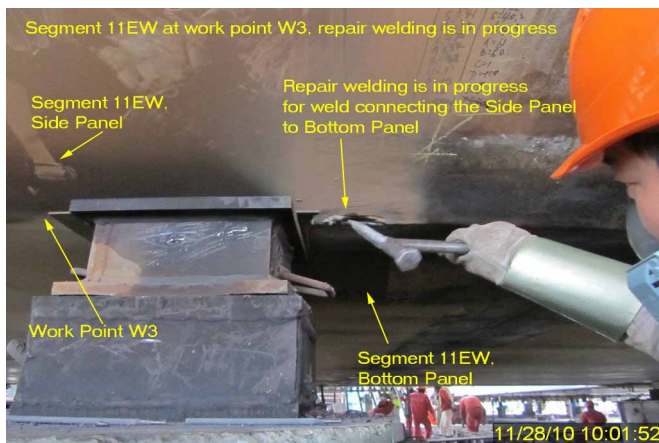
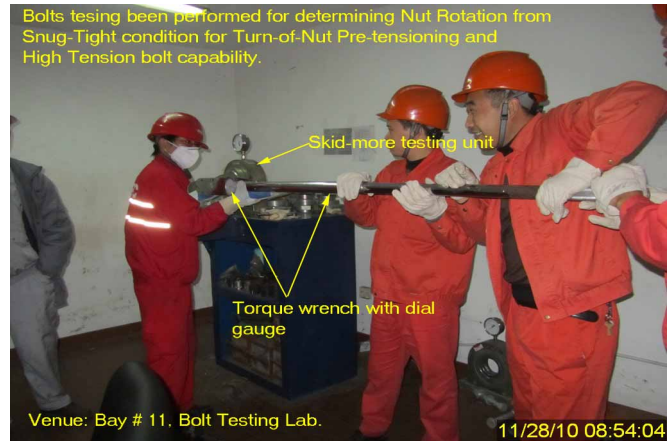
Segment 11DW to Segment 11EW (Transverse Splice at Side Panel)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW11C-007. The welder identification was 053871 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-Repair-FCM-1. The piece mark was identified as the Side Panel, Counter Weight side. ZPMC performed repair welding in accordance with Critical Welding Report B-CWR2272.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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Summary of Conversations:

No relevant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer
